

ASSESSMENT OF LOAD AND ENERGY REDUCTION TECHNIQUES (ALERT)



This is Section 1 of the ALERT Book, which provides guidance for teams conducting energy use assessments at federal sites as part of the Assessment of Load and Energy Reduction Techniques (ALERT) Program.

The ALERT Book is published in five sections:

ALERT Book, Section 1. http://www.eren.doe.gov/femp/techassist/pdf/alertbook_1.pdf

ALERT Book, Section 2a. http://www.eren.doe.gov/femp/techassist/pdf/alertbook_2a.pdf

ALERT Book, Section 2b. http://www.eren.doe.gov/femp/techassist/pdf/alertbook_2b.pdf

ALERT Book, Section 2c. http://www.eren.doe.gov/femp/techassist/pdf/alertbook_2c.pdf

ALERT Book, Section 3. http://www.eren.doe.gov/femp/techassist/pdf/alertbook_3.pdf

**ALERT FY 2002
Working Documents
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ⁱ December 11, 2001 Table of Contents v4.doc

Assessment Of Load & Energy Reduction Techniques (ALERT)

The primary purpose of the ALERT Teams is to assist Federal agencies with efforts to reduce demand in locations where they are experiencing price volatility and electricity supply shortages. Working with site staff the teams will identify and implement measures, where feasible, during the site assessments. They will focus on no cost and low cost measures with a limited assessment of Distributed Generation (DG) opportunities and summary assessment of longer term energy efficiency opportunities. Another way of thinking about this is as a re-tuning or commissioning activity. Anything that can be done to assist Federal sites to set in motion immediate implementation of more efficient operating strategies is in the ALERT Teams' scope.

The ALERT Teams are organized for rapid mobilization at site/agency request to address these concerns as follows:

- Teams will assess operational efficiency measures. (i.e. low cost and no cost measures)
- Teams will identify public benefit funds available for proposed measures and provide assistance with identifying and filing applications for these funds for federal projects.
- Teams will work with site personnel to develop an implementation plan.

ALERT Contacts

The first step, for Agencies that are interested in an ALERT assessment, is to contact their DOE FEMP Regional Office representative. The FEMP RO representative will interview the agency to compare the site description with ALERT site selection criteria and gather high-level site data. (link to site criteria) Once a site is selected, more in-depth interviews will be done to continue the essential data gathering process.

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ALERT Objectives

Recent events have sharpened the focus on energy security and vulnerability issues. The focus on peak load reductions has been somewhat tempered but remains a factor in areas with transmission constraints. Containment of energy costs continues to be a high priority as repercussions from the recent spate of rate increases impact energy budgets. Also, volatility in natural gas prices seen during CY 2001 demonstrates the need to improve operational efficiencies to minimize natural gas consumption and dependence, particularly in areas subject to pipeline constraints and resulting price excursions.

As a result of these factors the ALERTs in FY 2002 will focus on:

- 1) Reducing peak electrical loads and consumption and reducing onsite fuel consumption for cost containment,
- 2) Peak load management,
- 3) Identifying other FEMP support services desired by Federal sites,
- 4) Identification of public benefits funding and alternative tariffs and assistance with the application process, and
- 5) Assessing on-site generation to reduce energy vulnerability and enhance mission reliability.

FY 2002 ALERT Teams will be ready for rapid mobilization and follow-up activities as requested by sites. The ALERT Teams will take quick action to address agencies' urgent needs including: management of price volatility, reduce the impacts of escalating energy rates and address reliability and energy security issues. To the maximum extent possible, existing studies will be used to further accelerate the process. Teams will focus on operation and maintenance strategies that will result in reduced energy costs and vulnerability. Teams will work with site personnel to develop an implementation (strategic) plan to address all of these issues.

ALERT Hallmarks

Some hallmarks of the ALERT Teams in FY 2001 were the fast response and follow-up at sites after initial assessments were conducted. Working with the staff at the individual sites, the ALERT Teams implemented the energy-reduction measures during the site assessments, when possible. They also conducted a limited assessment of opportunities for distributed generation (DG) and for capital-intensive energy efficiency projects.

Site Expectations

The first step, for Agencies that are interested in an ALERT assessment, is to contact their DOE FEMP Regional Office representative. (link to contacts) The FEMP RO representative will interview the agency to compare the site description with ALERT site selection criteria and gather high-level site data. (link to part 1 of screening document) Once a site is selected, more in-

depth interviews will be done to continue the essential data gathering process. (parts 2 & 3 of screening document) Sites will be asked to ensure site energy management control specialists and O&M staff are available during the site assessment.

Sites are expected to implement no and low cost measures identified by the ALERT teams.

FEMP services are also available to Federal sites to assist in implementation of more capital-intensive measures. It is the intent of the ALERT program to facilitate the transition from an ALERT assessment to other support services (project financing support and technical assistance) enabling the sites to accomplish their energy efficiency, renewable energy and energy security objectives.

Site Criteria

Criteria for site selection:

- Active project champion and management support
- Contribution to grid stability*
- High cost of energy and history of price volatility
- Potential savings
- Agency pays utility bills
- Ability to cost share**

*Areas with transmission constraints or other possible electrical problems.

**Cost sharing may be in the form of ensuring O&M staff participation in the ALERT, e.g. the controls specialist / contractor is critical, a commitment to pay for implementation of recommended measures, or supporting efforts by organizing and funding an agency ALERT workshop.

ALERT Activities for FY 2002

Recent events have sharpened the focus on energy security and vulnerability. Peak loads are no longer causing emergencies but remain a factor in areas with transmission constraints. Containment of energy costs continues to be a high priority as sites feel the repercussions from the recent spate of rate increases in their energy budgets. Also, volatility in petroleum and natural gas prices seen during 2001 demonstrates the need to improve operational efficiencies to minimize consumption of and dependence on both commodities, particularly in areas subject to pipeline constraints and resulting price excursions.

Accordingly, FY 2002 FEMP ALERT teams will focus on:

- reducing peak electrical loads, energy consumption, and on-site fuel consumption for cost containment, through identification and implementation of no-cost and low-cost operational measures,
- managing peak loads,
- identifying public benefits funding and alternative tariffs and assistance with the application process
- identifying other FEMP support services desired by Federal sites, and
- assessing the potential for on-site generation to reduce energy vulnerability and enhance mission reliability.

FY 2002 ALERT teams will be ready for rapid mobilization and follow-up activities as requested by sites. The ALERT Teams will take quick action to address agencies' urgent needs including: management of price volatility, reduction of the impacts of escalating energy rates and addressing reliability and energy security issues. To the maximum extent possible, existing studies will be used to accelerate the process. Teams will focus on O&M strategies that can reduce energy costs and increase energy security. Teams will work with site personnel to develop implementation (strategic) plans to address these issues.

In addition to site assessments, FEMP ALERT activities in FY 2002 will include:

- development of new assessment protocols and training,
- tracking and reporting of projects,
- follow-up activities for ALERT sites,
- report quality control reviews, and
- a national ALERT workshop to share lessons learned with Federal agencies and private-sector service providers.

ALERT Process Description FY 2002ⁱ

- 1) Regional Offices market the ALERT teams as they do any other FEMP services for Federal sites.
- 2) Sites request ALERT team visits and are screened by the ROs to determine applicability of the ALERT approach for the site. Site requests that originate with FEMP headquarters are discussed with the regional offices to determine applicability. ROs should brief sites on level of effort expected on their part.
- 3) Site requests determined to be good candidates are forwarded to FEMP headquarters for assignment of an ALERT team.
- 4) The ALERT team lead collects data in preparation for the site visit.
- 5) The team visits the site.
- 6) After the site visit the team lead is responsible for drafting the report and coordinating site and DOE review of the draft report.
- 7) The final report is sent to the regional office and from the regional office to the site.
- 8) The team lead is responsible to advise the regional office of any follow on activities desired by the site. This should be done via Email.
- 9) The regional office is responsible for delivery of follow on support service.

ⁱ Wednesday, November 07, 2001
ALERT Process FY2002.doc

Plan of Action

Energy Conservation at Federal Facilities

Background

A key component of this Administration's overall commitment to make the most economical use of public dollars and to protect the environment is to improve energy conservation at Federal facilities. Further, with possible electricity shortages in California, and in the Northeast and Northwest this summer, the Federal Government should set a good example of conservation by reducing its own energy use, particularly in regions where electricity shortages may occur and during periods of peak electricity demand. Such conservation would save public money, protect the environment, and help to minimize shortages. The Federal government is in a position to reduce loads and make a sizable contribution in the effort to avoid Electrical Emergencies.

On May 3, 2001 President Bush issued a directive to the heads of executive departments and agencies ("agencies") to take appropriate actions to conserve energy use at their facilities to the maximum extent consistent with the effective discharge of public responsibilities. Agencies located in regions where electricity shortages are possible should conserve use especially during periods of peak demand.

The Department of Energy will be dispatching special DOE ALERT Teams to the top 25 largest energy-using federal facilities in California. These *Assessment of Load and Energy Reduction Technique* Teams will identify key short-term measures at federal sites in the State in order for them to reduce their own peak load. DOE will hold a workshop in the next few weeks to pass on the "lessons learned" to all federal facilities.

Many federal facilities already realize the financial benefits of planning for electrical load reductions, and have excellent plans in place. The Federal government as a whole has reduced its energy consumption in buildings by 20% and is on track to achieve a 35% by 2010. While these gains in efficiency have been measured in terms of efficiency there is a corresponding reduction in demand on the electrical system. The experience gained by these facilities forms the basis of this Federal-wide plan to be implemented by all Federal facilities in support of local electrical use reduction efforts. Individual facility plans should be customized to site specific conditions. The requirement for emergency conservation plans is contained in Title 10, Code of Federal Regulations, Part 436, Subpart F, Paragraph 436.105.

Reporting of Conservation Actions to the President

Agencies should review their existing operating and administrative processes and conservation programs and identify and implement additional ways to conserve such use.

All agencies are required to report back to the President, through the Secretary of Energy, by June 3rd on the conservation actions taken. The agencies shall take these and other appropriate energy conservation actions using existing budget authority. The required format for the report will be provided by the Department of Energy's Federal Energy Management Program.

General

1. Establish/enhance communications with the local utility company. Understand their needs for load reductions. Work with the local utility to develop the individual facility plan. An example is the Potomac Electric Power Company's (PEPCO's) Curtailable Load Program. During the summer of 1999, participating Federal agencies in the Washington, DC area provided an estimated eight megawatts of peak load reduction on five occasions when requested by PEPCO, assisting PEPCO, and enhancing grid reliability.
2. Identify load reduction measures appropriate for the facility. Investigate separating loads into: (1) Life, health and safety driven; (2) Mission critical; and, (3) Non-critical. If not separately switchable, investigate modifying systems to allow terminating or reducing non-critical loads.
3. Agencies should immediately update their facility's "Plan of Action for Emergency Electricity Reductions".
4. Federal facilities in California are encouraged to participate in the state's May 24th Emergency Load Reduction Test. The California Energy Commission is sponsoring the test, with federal participation coordinated by DOE. The test will include actual energy conservation measures taken by federal, state, local and private sector facilities. The California Independent System Operator will monitor the load reductions.
5. During Stage 2 or 3 alerts in California federal facilities should take steps to rapidly reduce their electricity loads, even if these actions would require some sacrifices in employee comfort or convenience. These actions should include: raising indoor temperatures to 78 degrees; shutting down non-essential space cooling up to one hour before the normal close of each workday; turning off nonessential lighting and building systems such as escalators; a portion of all elevators, chilled water for fountains); and, reducing corridor lighting. DOE facility managers are required to take these steps.
6. Establish a system to alert employees of expected high demand days including, but not limited to E-mail, voice mail, or public address announcement to all employees. Communicate early to allow employees to take load reduction measures at home and to dress appropriately.
7. Monitor total facility demand and demands for individual major loads (if separate metering is available). Monitor weather forecasts to predict high demand days and be proactive in communicating with the local utility to assess need to reduce load.
8. Initiate load reduction measures. Employees can take steps to reduce lighting, personal computers and appliances electricity use. While energy efficiency should be encouraged on a daily basis, stress the need for increased diligence to alleviate the emergency. Air conditioning operating changes and other system-wide

measures should be accomplished by facilities management. Federal facilities that have energy management and control systems are well suited for this task. Facilities should also consider additional measures appropriate for site specific circumstances.

9. Encourage employees to reduce electrical loads in their homes, to reduce demand on the utility system. If no one is at home during the workday, unneeded appliances and lights should be turned off, and air conditioning thermostats should be set higher before departing for the day. Also, some utilities offer cost incentives to residential customers who allow the utility to remotely cycle off power to air conditioning and electric water heating systems. Periods without power are limited, so that comfort is not sacrificed. Encourage employees to participate in these programs, to assist the local utility, while reducing their electricity bill.
10. Enhance employee awareness of energy efficiency through training and less formal methods. Provide mandatory and voluntary training opportunities on smart energy practices so that employees can practice energy efficiency during emergency periods and year-round. In addition to training, run public service announcements about energy efficiency on televisions in cafeterias and other public use areas; send periodic e-mail messages about turning off lights and computers and implementing other efficiency practices; post signs or billboards near light switches or communal printers; and consider holding annual energy fairs prior to seasonal emergency periods to provide additional information for employees about how to manage energy use in the work place and in their homes.

Lighting Measures

1. Turn off fluorescent lights when leaving an area for more than 1 minute. (During non-emergencies, 5 minutes is recommended, to keep from excessively reducing lamp life). Turn off incandescent lights when leaving areas for any period of time.
2. In areas with sufficient daylighting, turn off lights. Adjust blinds, if available, to reduce glare.
3. Use task lighting and turn off general lighting, where it is feasible to maintain sufficient lighting levels for safety and productivity.
4. Turn off display and decorative lighting.

Personal Computers And Appliance Measures

1. Turn off printers when not in use.
2. Turn off monitors when not in use.
3. Ensure ENERGY STAR power down features are activated.
4. If computers do not have ENERGY STAR features available, turn them off when leaving the office for more than 30 minutes.
5. Ensure personal appliances, such as coffee pots and radios are turned off.

Air Conditioning Measures

1. Pre-cool building(s) below normal temperature settings prior to onset of peak demand period. Make sure to tell employees about this practice, so that they will not operate space heaters. During peak demand period, allow space temperatures to drift back up to normal settings (or as much as 5 degrees Fahrenheit (°F) above normal settings).
2. Allow casual attire, to make higher temperatures more acceptable.
3. Where systems allow, lower chilled water temperatures several degrees below normal settings prior to peak periods, and allow to drift above normal settings during peak periods.
4. Duty cycle air handling units off. Ensure adequate outside air flow rates to maintain indoor air quality.
5. Ensure that ventilation grilles and fan coil units are not blocked by books, flowers, debris, or other obstructions. This will improve air conditioning system efficiency and improve comfort.

Other

1. Operate emergency generators (many agencies have negotiated financial incentives from their local utility for operating generators). Ensure that generators have ample fuel for emergency operation and have been tested routinely. Turn off shore power to ships in dock and operate ship power systems. Make mobile utility system electrical generating equipment available to the local utility.
2. Shut off selected elevators and escalators. Ensure accessibility needs are met.
3. Where feasible, schedule high electrical energy use processes during off peak periods.
4. Encourage employees to not use copiers during peak demand period. Turn off selected copiers. Ensure power saver switch on copiers is enabled.
5. Turn off unnecessary loads such as fountain pumps.

Long Term Solutions

1. Consider purchasing interruptible power for selected loads with high electrical demand, and which will not suffer adverse consequences in the event of the utility turning off power. The cost savings from the lower rate may far outweigh the inconvenience of power being turned off within the interruption limitations agreed to in the utility contract.
2. Consider installing sub-metering to identify high intensity loads to be shed during emergencies.
3. Investigate thermal storage systems or alternative energy sources for air conditioning.
4. Install motion sensors and separate lighting circuits to allow turning off unneeded lights. (Some agencies have installed switching to separate public areas from agency work spaces).

5. Install an Energy Management and Control System to allow shedding and monitoring loads from one central location. If non-critical loads are not separately switchable, modify systems to allow terminating. Local utilities or energy services companies (ESCOs) can assist with this effort.
6. Consider adding on-site generation using micro-turbines, fuel cells, combined heat and power, renewable, or other appropriate technology.

Department of Energy - May 4, 2001

For implementation questions or assistance, please contact the Federal Energy Management Program at 202-586-5772.



**U. S. Department of Energy
Federal Energy Management Program
Assessment of Load and Energy Reduction Techniques (ALERT)
FY 2002**

Overview

During FY 2002, ALERT (Assessment of Load and Energy Reduction Techniques) Teams identified and selected by FEMP will assist Federal agencies to reduce energy demand and consumption at locations experiencing price volatility and electricity supply shortages. Recent events have sharpened the focus on energy security and vulnerability issues. The focus on peak load reductions has been somewhat tempered but remains a factor in areas with transmission constraints. Containment of energy costs continues to be a high priority as repercussions from the recent spate of rate increases impact energy budgets. Also, volatility in natural gas prices seen during CY 2001 demonstrates the need to improve operational efficiencies to minimize natural gas consumption and dependence, particularly in areas subject to pipeline constraints and resulting price excursions.

As a result of these factors, ALERT in FY 2002 will primarily focus on the following, with leeway to respond to specific site needs:

- 1) Reducing peak electrical loads and consumption and reducing onsite fuel consumption for cost containment,
- 2) Peak load management,
- 3) Identifying other FEMP support services desired by Federal sites,
- 4) Identification of public benefits funding and alternative tariffs and assistance with the application process, and
- 5) Assessing on-site generation to reduce energy vulnerability and enhance mission reliability.

Hallmarks of the ALERT Teams include fast response and site follow-up after the initial assessment. Working with site staff, the ALERT teams identify and, when feasible, implement measures during the site assessments. The teams focus mainly on no-cost and low-cost measures. They also may perform a limited assessment of opportunities for distributed generation (DG) and for capital-intensive energy efficiency projects. A report is generated and provided to the agency for review; the report is then finalized. The ALERT teams are made up primarily with DOE Laboratory technical personnel with 2-3 people designated for each ALERT assessment. For very large sites with numerous buildings, the ALERT team will work with the agency to select the appropriate number and type of buildings for the assessment.

Expectations of the agencies participating in ALERT:

FEMP will assess 30–40 new sites nationwide during FY 2002. The cost to FEMP per site assessment is expected to range between \$5,000 to \$30,000. Sites will be selected based on the criteria below. They will be screened initially by the Regional Offices, with additional screening performed by the ALERT team lead prior to committing to the assessment.

ALERT teams will be dispatched to Federal sites identified through the call for projects (6 identified in the FY 2001 call) and individual site requests. ALERT sites will also be selected by the DOE regional offices and headquarters, with input and screening by the Labs.

Criteria for site selection:

- ✂✂Active project champion and management support
- ✂✂Contribution to grid stability*
- ✂✂High cost of energy and history of price volatility
- ✂✂Potential savings (bigger is better)
- ✂✂Agency pays utility bills
- ✂✂Ability to cost share**

*Areas with transmission constraints or other possible electrical problems.

**Cost sharing may be in the form of (but not limited to) in kind services, funding support contractor (e.g. controls contractor) participation in the ALERT, a commitment to pay for implementation of recommended measures, or supporting efforts by organizing and funding an agency ALERT workshop to learn the techniques.

Sites should be aware that the ALERT assessments will require resources and support from the agency. Resources are needed during three stages: Prior to the team visiting, while the ALERT team is on site, and for review of the draft report. Prior to visiting the site, there will be two interview stages – Initial and an in-depth questionnaire on the buildings, equipment and energy use. When the team is at the site, there will generally be a kick-off meeting, the team will investigate the various buildings, there will be questions and discussions, some measures may be implemented, and there will be a final report-out meeting. The draft report will be produced, and the site will be asked to review it. Support for the ALERT team will help ensure that the ALERT assessment provides the best set of recommendations for the site.

Agencies are also expected to commit to implementation of the no and low cost measures identified by the ALERT teams. FEMP services are available to Federal sites to assist in implementation of more capital-intensive measures. It is the intent of the ALERT program to facilitate the transition from an ALERT assessment to other support services as needed (such as project financing support and technical assistance), enabling the sites to accomplish their energy efficiency, renewable energy and energy security objectives.

We hope this partnership between FEMP and the various agencies will help take us one step closer to reaching our Executive Order 13123 goals. If you are interested and believe you meet the criteria, please contact your DOE Regional Office for more information and visit the FEMP Website at <http://www.eren.doe/femp> for general information on ALERT.

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3/12/02

ALERT Site Interview Record

DOE FEMP

Draft

Date:
Site Name / Agency:
Site Contact – Name
Contact Phone:
Interviewer:

Part 1: Informational Interview

(Regional Office or Team Leader)

The intent of these initial questions is to help determine how good of a candidate the site/building may be for an ALERT and what specific objectives the site would like to accomplish with the ALERT. The best person to interview may be the Lead Facility Manager for the site/building.

1. Please describe the site/facility:

2. What is the desired objective of the ALERT assessment and what is the motivation?

- ___ a. Energy cost containment in areas experiencing price volatility;
- ___ b. Peak load management;
- ___ c. Assessing on-site generation to reduce energy vulnerability and enhance mission reliability;
- ___ d. Improve operational discipline and reduce O&M costs;
- ___ e. Other, describe: _____

3. Utilities:

- a. What utilities are on site? ☐ Electricity ☐ Natural Gas ☐ Other: _____
- b. Who pays the utility bill? (whose line item is it? operations, engineering, etc) _____
- c. What is the estimated annual cost of utilities? (electrical rates above \$0.7/kWh are good candidates)
 - i. Electricity _____
 - ii. Natural Gas _____
 - iii. Other _____

4. Site (This information will be documented in detail by the ALERT team. Typically a square footage of 250,000 or greater will be a good candidate.)

- a. Are buildings Federally owned?
- b. What building types are on the site?
- c. What is the square footage ?
- d. Will specific buildings be targeted for ALERT?

5. The work will require some staff time and/or contractor expense to implement. Do you have the staffing, funding flexibility and authority to redirect some O&M activities to implement the no-cost and low-cost ALERT recommendations?

ALERT Site Interview Record
DOE FEMP
Draft

Date:
Site Name / Agency:
Site Contact – Name
Contact Phone:
Interviewer:

6. ALERT assessments generally cost \$10k to \$15k. Do you have resources to support the assessment in any of the following areas?

- ☐ a. Provide the site controls specialist during the site visit
- ☐ b. Provide the site O&M specialist during the site visit
- ☐ c. Other

7. Does site management have a preference for a particular organization to conduct the ALERT?

8. When does the site want the ALERT team to visit the site? (i.e. window)

9. Are there others at the site we should be contacting to get specific information for the ALERT?

Interviewer recommendations regarding priorities and objectives:

ALERT Site Interview Record

DOE FEMP

Draft

Date:
Site Name / Agency:
Site Contact – Name
Contact Phone:
Interviewer:

Part II: Team Leader Interview

(Prepare for Site Visit)

The intent of these questions is to determine the scope of the ALERT to prepare the team and site personnel for the site visit.

1. **Site:**

- a. What is the site location/address? *(provide map if available)*
- b. Do you have a building inventory? *[(type, square footage, age, etc.) Request electronic or hard copy.]*
- c. Do you have any industrial processes or other energy intensive operations/building types?
- d. Are there particular buildings you would like assessed? *(Refer to attachment 1)*
- e. Are there specific systems or concerns in the buildings to be assessed that you would like addressed? *(controls, equipment, etc.)*

2. **Facility Management:**

- a. The work will require some staff time and/or contractor expense to implement. Do you have the staffing, funding flexibility and authority to redirect some O&M activities to implement the no-cost and low-cost ALERT recommendations? Who is responsible for funding implementation of the measures recommended?
- b. What energy management plans and staffing exist now?
- c. Does the site have a load curtailment plan in place? When and how is it activated?
- d. What energy efficiency or demand reduction efforts have been completed, started, or planned?
- e. What energy audits and/or building condition assessments have been done?

ALERT Site Interview Record
DOE FEMP
Draft

Date:
Site Name / Agency:
Site Contact – Name
Contact Phone:
Interviewer:

2. Facility Management (continued)

f. How well has management supported doing the recommended actions?

g. Would you provide copies of these documents to me? *(email is preferable)*

REFER TO ATTACHMENT 1

3. Brief description of building systems to assess scope. *(HVAC/Lighting/Generation/Building Construction/Other) BEGIN FILLING IN ATTACHMENT 1.*

4. Building Controls:

a. What is your site and building control system? *(manufacturer, version, age, may have multiple systems)*

b. What systems are controlled with the automation systems?

c. Are there problems with operation of the control system?

d. Who manages and trouble-shoots the control system? *(in-house staff, contractors, bldg owner)* Will they be available during the ALERT site visit?

5. Occupancy: How satisfied are the occupants of the facilities? *(request copies of surveys, complaints, etc)*

6. Utilities:

a. Describe the metering capability. Is there one meter at the gate or are there several or individual building meters? (kW, kWh, real-time vs. monthly)

b. What is the name and phone number of the person who can give us meter data?

ALERT Site Interview Record

DOE FEMP

Draft

Date:
Site Name / Agency:
Site Contact – Name
Contact Phone:
Interviewer:

Part III: Building Information

(Site Visit Interview)

The building information is to be completed by the ALERT team and site personnel.

1. **Building Occupancy & Work Schedule:** *(Attachment I)*

- a. How many occupants?
- b. Who are the major occupants?
- c. What are their work hours?

2. **What is the location of the building(s) being assessed?**

3. **Who operates and maintains the buildings?** *(in-house staff, contractors, bldg owner)*

4. **Building Facts** *(Attachment 2.)*

- a. How are the buildings heated and cooled? *[Gas, electricity, etc.] [Central site-wide systems vs. stand-alone per-building systems?]*
- b. What general condition assessments have been done?
- c. Can you provide a list of building square footage per type of occupancy/space?
- d. Can you provide a list or inventory of the buildings' characteristics? *(age, condition, HVAC and motor inventory)*

5. **Building Controls: What is automated?** *(systems, points, PC / terminal inventory?)* **Who manages the control systems?** *(name and phone number)*

6. **What are the costs for all energy sources consumed at the site?**

	<u>Utility</u>	<u>Demand</u>	<u>Annual Consumption</u>	<u>Rate</u>
a.	Electricity	kW	_____ kWh/yr	\$_____ /kWh
b.	Natural Gas	Therms	_____ therm/yr	\$_____ /Therm
c.	Water	Gallons	_____ gallons/yr	\$_____ /gallon
d.	Sewer		_____	\$_____
e.	Other _____		_____	\$_____

ALERT Site Interview Record
DOE FEMP
Draft

Date:
Site Name / Agency:
Site Contact – Name
Contact Phone:
Interviewer:

7. Please provide utility rate schedules and 12 months of billing copies. (give a due date)

8. What are the largest electrical end-uses? (See response to Part II, question 1b)

9. What uses are essential or critical to maintain in event of outages?

10. Do you recharge the utility costs to occupants or programs? What is the recharge method?

11. Electricity Generation: How much of the buildings' load can your generators provide? Can you provide key data for the on-site generators: types, capacity, age, % of bldg load, and whether generators are designed for short or long hours of operation?

12. Projects: For the buildings that will be assessed, do you have any projects planned, under construction or recently completed?

13. Describe the load curtailment plan. (Team Lead: Document for the ALERT report. If the site does not have a plan in place, briefly discuss the model and encourage them to make use of it. If the site is located in one of the transmission constrained areas assist the site with setting up the implementation process.)

14. Miscellaneous

- a. Please provide a site map with buildings and utility lines. (give a due date)
- b. Please provide 1-line diagrams of floor plans. (give a due date)
- c. Please provide mechanical plans. (give a due date)

ALERT Site Interview Record

DOE FEMP

Draft

Date: _____
Site Name / Agency: _____
Site Contact – Name: _____
Contact Phone: _____
Interviewer: _____

Attachment 1 – Building Data

Submit 1 copy of this attachment for each building to be audited (if there are several buildings involved, a spreadsheet may be submitted).

Building Information

Building Name: _____
Address Line 1: _____
Address Line 2: _____
Building Function: _____
Floors: _____ Square feet: _____ Building Age: _____
Hours of Operation: _____
Number of Occupants per shift: _____

Building Type: (Select one category)

☐ Hospital ☐ Prison
☐ Housing-multi ☐ R&D
☐ Housing-single ☐ School
☐ Office ☐ Warehouse
☐ Industrial ☐ Service
☐ Other: _____

Energy consumption and cost *(using the most recent 12 months)*

Energy source	Usage	Cost
<input type="checkbox"/> Natural Gas	_____ (ccf, mcf, therms)	\$ _____
<input type="checkbox"/> Electricity	_____ (kWh)	\$ _____
<input type="checkbox"/> Fuel Oil	_____ (gallons of fuel)	\$ _____
<input type="checkbox"/> Purch. Steam	_____ (million pounds)	\$ _____

Energy source	Usage	Cost
<input type="checkbox"/> Propane	_____ (gallons of fuel)	\$ _____
<input type="checkbox"/> Water	_____ (million gallons)	\$ _____
<input type="checkbox"/> Other	_____ ()	\$ _____
<input type="checkbox"/> Other	_____ ()	\$ _____

- How is consumption calculated?
- How are costs calculated?
- Is the building separately metered?
- Does the building have a kW meter?
- Can you provide hourly (or less) meter output for kW and kWh for recent heating, cooling, and swing seasons for the site and for the building?

Building Energy and Water Information Resources

The following materials need to be available for review by the auditor prior to the site visit. Please check all those that can be provided.

- | | |
|--|--|
| <input type="checkbox"/> Historical utility bills | <input type="checkbox"/> Past surveys, energy or water audits, load profiles, or studies performed by the servicing utility(ies) |
| <input type="checkbox"/> Plans and as-built drawings | <input type="checkbox"/> Other. Please specify: _____ |
| <input type="checkbox"/> Equipment specifications | |
| <input type="checkbox"/> Equipment maintenance, service records, test reports, plant log data, combustion efficiency reports | |

ALERT Site Interview Record
DOE FEMP
Draft

Date:
Site Name / Agency:
Site Contact – Name
Contact Phone:
Interviewer:

Attachment 2 – Building Information

(Relevant information that could assist the ALERT team.)

Building Name: _____

Building Construction- *(Steel, masonry, wood frame, single- or double-glaze windows, insulated walls and roof, etc.)*

Heating and Cooling Systems - *(Heating: hot water/steam boiler, forced air furnace, electric resistance, unit heaters, etc. Cooling: central electric, absorption, gas-driven chillers, window units, rooftop packaged units, direct expansion, etc.)*

Identify each boiler included in the request which is rated at 1.5 million British thermal units per hour, or greater, with its rating. Identify all chiller plants and cooling towers included in the request.

Ventilation System - *(Ducted single zone, multizone, VAV, dual duct, thru-the-wall ventilators, no ventilation, etc.)*

Controls - *(Ability to shut off equipment or set back temperatures when unoccupied, energy management system, etc.)*

Other Relevant Information Relating to Building Energy Use

Any Particular Areas for Auditors to Emphasize -

Please Attach a Simple Building or Site Floor Plan - *(Site plan denoting buildings to be audited, if multi-building site)*

ALERT Site Interview Record

DOE FEMP

Part 1: Informational Interview

(Regional Office)

The intent of these initial questions is to help determine how good of a candidate the site/building may be for an ALERT and what specific objectives the site would like to accomplish with the ALERT. The best person to interview may be the Lead Facility Manager for the site/building.

Date:

Agency:

Site Name:

Site Address 1:

Site Address 2:

Site City/State:

Contact Name:

Contact Phone:

Contact E-mail:

Contact Fax:

Interviewer:

1. *Please describe the site/facility:*

2. *What is the desired objective of the ALERT assessment and what is the motivation?*

- ___ a. Energy cost containment in areas experiencing price volatility;
- ___ b. Peak load management;
- ___ c. Assessing on-site generation to reduce energy vulnerability and enhance mission reliability;
- ___ d. Improve operational discipline and reduce O&M costs;
- ___ e. Other, describe: _____

3. *Utilities:*

- a. What utilities are on site? ☐ Electricity ☐ Natural Gas ☐ Other: _____
- b. Who pays the utility bill? (*whose line item is it? operations, engineering, etc*) _____
- c. What is the estimated annual cost of utilities? (*electrical rates above \$0.7/kWh are good candidates*)
 - i. Electricity _____
 - ii. Natural Gas _____
 - iii. Other _____

4. *Site* (This information will be documented in detail by the ALERT team. Typically a square footage of 250,000 or greater will be a good candidate.)

- a. Are buildings Federally owned?
- b. What building types are on the site?
- c. What is the square footage ?
- d. Will specific buildings be targeted for ALERT? (Which ones do you have in mind?)

5. ***The work will require some staff time and/or contractor expense to implement. Do you have the staffing, funding flexibility and authority to redirect some O&M activities to implement the no-cost and low-cost ALERT recommendations?***
6. ***ALERT assessments generally cost \$10k to \$15k. Do you have resources to support the assessment in any of the following areas?***
- ☐ a. Provide the site controls specialist during the site visit
 - ☐ b. Provide the site O&M specialist during the site visit
 - ☐ c. Other
7. ***Does site management have a preference for a particular organization to conduct the ALERT?***
8. ***When does the site want the ALERT team to visit the site? (i.e. timeframe)***
9. ***Are there others at the site we should be contacting to get specific information for the ALERT (provide necessary contact information)?***

Interviewer recommendations regarding priorities and objectives:

